

# Camel Bite Injuries in North-Western Nigeria

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## ABSTRACT

Camel bites are unusual type of injuries that are scarcely reported in the literature. It results in injuries that can be life threatening or limb threatening. Male camels are commonly implicated, during the rutting season. This article is a case series of six cases: all were males and camel rearers. Their injuries included open fractures of the upper limbs (Gustillo and Anderson IIIB and IIIC). Three patients underwent debridement with external fixation; one required amputation and the remaining two signed against medical advice. Out of the three that had external fixation, one died from generalised tetanus that had developed before presentation, the remaining two had non-union, requiring second procedure.

Camel bite injuries are severe injuries and late presentation worsens the outcome of treatment.

**Keywords:** Domestic animals, Limb threatening, Rutting season

## CASE SERIES

The case series is about six patients who reported to the medical centre with camel bite injuries. Three of the patients had injury during the rutting season of November to March. They all had emergency care given at presentation. Two of the patients signed against medical advice. Duration of hospital stay ranged from one to forty-six days with mean duration of eighteen days. One of the patients presented with generalised tetanus and he died on the fifth post-operative day. The features of the six patients and all the details

regarding the treatment that was rendered and the prognosis are as stated in the [Table/Fig-1] below.

## DISCUSSION

Camels are common domestic animals in north western Nigeria and they are useful for transportation and farming activities. These animals are calm but can be aggressive especially between November and March [1,2]. The head, face and upper extremities are the most vulnerable parts of the body for attack [1,3].

Cases	Age (years)/gender	Occupation	Owner of Camel	Month of injury	Interval between injury and presentation in hours	Injury sustained	Mechanism of injury	Treatment given	Complication	Outcome
1	70/M	Farmer	Patient	June	24	Open right radio-ulna fracture (°GA 3C)	<sup>b</sup> A	<sup>d</sup> BKA	Flap necrosis	Healed well
2	65/M	Farmer	Patient	March	5	Open left radio-ulna fracture with elbow dislocation (°GA 3B)	<sup>b</sup> A	Wound Debridement with External Fixation	<sup>f</sup> SSI+gap non-union in ulna	Planned for <sup>h</sup> ORIF with Bone graft
3	38/M	Trader	Patient	February	264	Open right radio-ulna fracture (°GA 3B)	<sup>c</sup> B	Wound Debridement with External Fixation	Generalised Tetanus	Died
4	30/M	Farmer	Father of patient	December	24	Open left radio-ulna fracture (°GA 3B)	<sup>b</sup> A	Wound Debridement with External Fixation	<sup>f</sup> SSI+radio-ulna non union	Planned for ORIF with Bone graft
5	30/M	Farmer	Not stated	April	48	Open right humeral fracture (°GA 3C)	<sup>b</sup> A	<sup>g</sup> AKA	Surgery not done- <sup>g</sup> SAMA	Not known
6	9/M	-	Grandfather of patient	October	15	Four 1.5 cm laceration around the right knee with Spiral Subtrochanteric Femoral fracture	<sup>b</sup> A	Wound Debridement+skin traction application with weight	<sup>g</sup> SAMA	Not known

**[Table/Fig-1]:** Case series of the six patients reviewed in tabular form.

<sup>°</sup>GA–Gustillo and Anderson classification of open fractures

<sup>b</sup>A–Held patient at the affected part with the mouth, lifted him up, shook vigorously and threw down

<sup>c</sup>B–Patient bitten only at the affected part

<sup>d</sup>BKA–Below knee amputation

<sup>g</sup>AKA–Above knee amputation

<sup>f</sup>SSI–Surgical site infection

<sup>g</sup>SAMA–Signed against medical advice

<sup>h</sup>ORIF–Open reduction internal fixation

The six patients in this study were males. Other studies too found a male affectation. This is not surprising because males are the ones likely to take care of camels and use them for farming activities [1,4]. Age range was 9 to 70 years, a similar study recorded age range of 5 to 89 years [4]. Three patients in this study had their injury during the rutting period [1]. Other studies also noted that over 70% of the injuries occur during the rutting period when the males become aggressive and difficult to handle [2,5].

The mechanism of injury in five of the six patients included biting, being lifted up, shaken vigorously and thrown down, while one of the patient was bitten. We found similar mechanism of injuries being reported by other authors too [1,2,6].

It is known that animal bites are contaminated with poly-microbial agents and these have high risk of infection especially when there is delay in presentation, this may have accounted partly for the various complications seen in these patients. This also may account partly for the amputation required by one patient in this series [7]. The outcome in the case study by Rahman S et al., was favourable as the victim presented within one hour [8].

The complications recorded in this study are not unexpected looking at the mechanism of injury, the time interval before presentation and the degree of contamination from the bite. Following a Camel bite, the extent of injury may take days to weeks before it becomes apparent which might have contributed to the complications they had, hence such injuries should never be taken lightly.

In these case series open reduction and internal fixation was done for some of the patients after initial debridement and support. Infection,

delayed union and non-union were noted as part of complications, similar to other reports [6,9].

## CONCLUSION

Camel bites though uncommon present with varying degree of injuries that need prompt response. Early presentation will help in preventing complications. Despite adequate early care, complications like non-union should be anticipated.

## REFERENCES

- [1] Abu-Zidan FM, Eid HO, Hefny AF, Bashir MO, Branicki F. Camel bite injuries in United Arab Emirates: a 6 year prospective study. *Injury*. 2012;43(9):1617-20.
- [2] Abu-Zidan FM, Abdel-Kader S, El Hussein R. Common carotid artery injury caused by a camel bite: case report and systematic review of the literature. *Ulus Travma Acil Cerrahi Derg*. 2014;20(1):59-62.
- [3] Ogunbodede EO, Arotiba JT. Camel bite injuries of the orofacial region: report of a case. *J Oral Maxillofac Surg*. 1997;55(10):1174-76.
- [4] Abu-Zidan FM, Hefny AF, Eid HO, Bashir MO, Branicki FJ. Camel-related injuries: prospective study of 212 patients. *World J Surg*. 2012;36(10):2384-89.
- [5] Nation FaAOotU. A manual for the primary animal health care worker: chapter 7: camels, llamas and alpacas. <http://www.fao.org/docrep/T0690E/t0690e09.htm#chapter>. 2012;7.
- [6] Kain R, Arya S. Camel bite: An uncommon mode of maxillofacial injury, its mechanism and fatality: Case series and review of literature. *Natl J Maxillofac Surg*. 2015;6(2):172-75.
- [7] Chhabra S, Chhabra N, Gaba S. Maxillofacial injuries due to animal bites. *J Oral Maxillofac Surg*. 2015;14(2):142-53.
- [8] Rahman S, Abdel-Kader S, Idris K, Abu-Zidan FM. An unusual, life-threatening camel bite to the abdomen of a young man. *Surgery*. 2017;162(2):466-67.
- [9] al-Boukai AA, Hawass NE, Patel PJ, Kolawole TM. Camel bites: report of severe osteolysis as late bone complications. *Postgrad Med J*. 1989;65(770):900-04.

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